

**FACTORS AFFECTING THE USE OF INFORMATION AND
COMMUNICATION TECHNOLOGY IN TEACHING AND LEARNING
OF SCIENCE SUBJECTS IN SECONDARY SCHOOLS IN HOMA BAY
SUB-COUNTY**

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF BACHELOR OF EDUCATION (SCIENCE) DEGREE OF
MOUNT KENYA UNIVERSITY**

1 ABSTRACT

This study was concerned with factors affecting the use of Information and Communication Technology (ICT) in teaching and learning of science subjects in secondary schools. The rationale was based on the view that properly designed ICT infrastructure, technical support and skills and knowledge of teachers in the application of ICT in teaching and learning add value to a teaching environment on which contact hours are limited. This is because the curriculum needs academic standards and the development of digital age skills for the 21st century learners. The literature review focuses on the benefits of ICT, ICT in parts of the world as well as Kenya, ICT integration in education, infrastructure and curriculum and ICT skills, knowledge and technical support. Over the last few decades, Information and Communication Technology (ICT) has become increasingly important in all organizations in modern societies including schools. Expectation about ICT and its role in developing and transforming the educational process through its inclusion in the daily school environment is increasing in many developed and developing countries. Many researchers and practitioners are involved in exploring and investigating ICT implementation in the learning and teaching process in secondary schools. This research explored and investigated influential factors and barriers surrounding ICT implementation in government secondary schools in Homa Bay Sub-county- Kenya from the perspectives of students, teachers and expert educators. The research adopted a socio-cultural approach whereby research problem was explored and investigated through different individuals in different contexts that are related directly or indirectly to ICT implementation in government secondary schools in Homa Bay Sub-county. Data, as well, was collected through a wide range of probing methods such as documents, self-managed questionnaires and interviews in order to answer the research question. In this study, 48 teachers were investigated through questionnaires and 16 expert educators/principals interviewed. The study findings revealed that in most schools the number of computers was too low, there was insufficient power supply, high cost of computer software and hardware and high cost of maintenance. Further, the teachers' skills and knowledge in the application of ICT in teaching and learning of science subjects had influence on the learners. Finally, teachers faced several challenges such as inadequate training on computer maintenance, inadequate funds to acquire appropriate computer software and hardware and insufficient amount of pre-service training. The ministry of education together with all other education stakeholders need to come up with strategies to curb this menace.